Radio Shack®

VIS™

Videotex and Office Information System

stings • Newsletters • Financial Services • Schools • Electronic Shopp
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ews, Weather, Sports • Legal Case Searches • Data Services • Adverti
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Presenting Radio Shack's VIS

The Videotex and Office Information System (VIS) is designed for storing, retrieving and distributing information. It offers state of the art technology at prices that are a fraction of comparable systems. In fact, some of the features of VIS, such as multiple keyword/synonym access, are not available on any other system at any price.

An Understanding of Videotex

VIS, as with all videotex systems, is a two-way interactive system that transmits electronic information directly to information consumers, or "users". With VIS, users may be a select group, the general public, or both. Any terminal or computer with terminal capability may be used to receive and display text and, if compatible, graphics and computer programs.

Establishing and organizing the data are the information providers, or "customers". Customers define their user population, sell or provide information and information updates, and establish any security access rules.

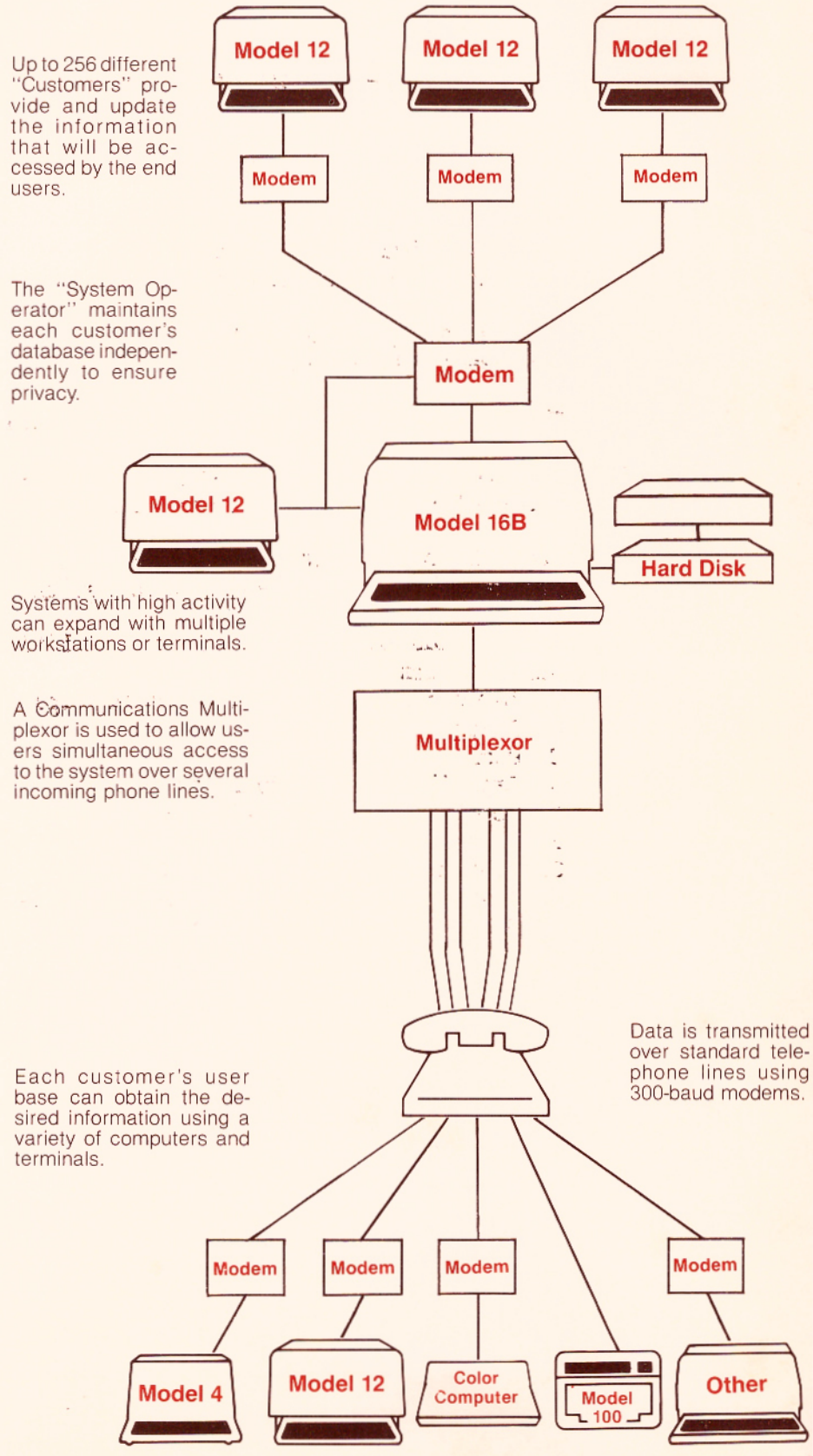
At the heart of VIS is the information service manager, or "system operator". The system operator maintains the computer hardware and VIS software for either a single customer or for multiple customers. The system maintains complete independence between customers, ensuring information privacy.

A Look at the Technology

Radio Shack's involvement with Videotex began in 1977 when our TRS-80 Videotex technology was selected for use in the government's "Project Green Thumb" program. This system provided farmers with the up-to-date agricultural information they required to stay ahead in such a volatile industry.

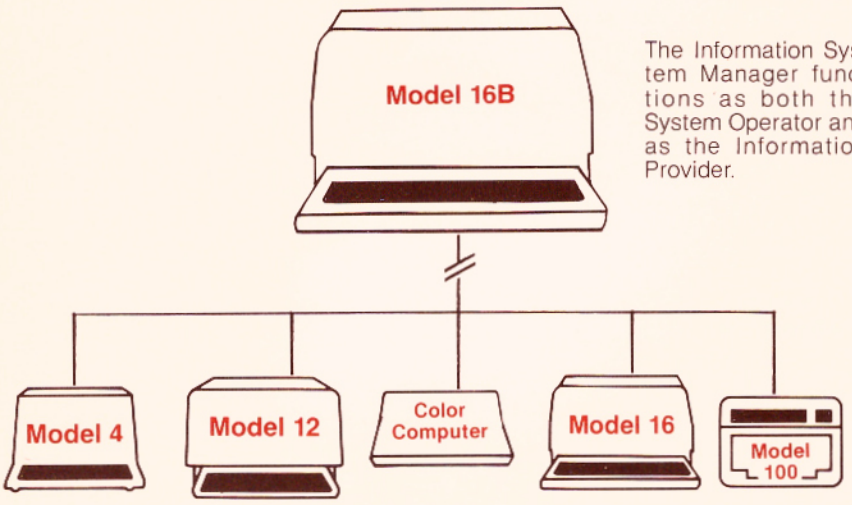
Today, Radio Shack's VIS couples extremely user-friendly software with our state-of-the-art TRS-80 Model 16B microcomputer. Utilizing both MC68000 and Z-80 microprocessors, the Model 16B accepts 16-bit data and processes it internally as 32-bit "words". Along with our TRS-80 Communications Multiplexor and over 45 megabytes of hard disk storage, the TRS-80 Model 16B becomes the hub of the most cost-effective videotex system ever developed.

Typical VIS Installation


Up to 256 different "Customers" provide and update the information that will be accessed by the end users.
Model 12
Model 12
Model 12
Modem
Modem
Modem
The "System Operator" maintains each customer's database independently to ensure privacy.
Modem
Model 12
Model 16B
Hard Disk
Systems with high activity can expand with multiple workstations or terminals.
A Communications Multiplexor is used to allow users simultaneous access to the system over several incoming phone lines.
Multiplexor
Each customer's user base can obtain the desired information using a variety of computers and terminals.
Data is transmitted over standard telephone lines using 300-baud modems.
Modem
Modem
Modem
Modem
Model 4
Model 12
Color Computer
Model 100
Other

Using VIS to Your Advantage

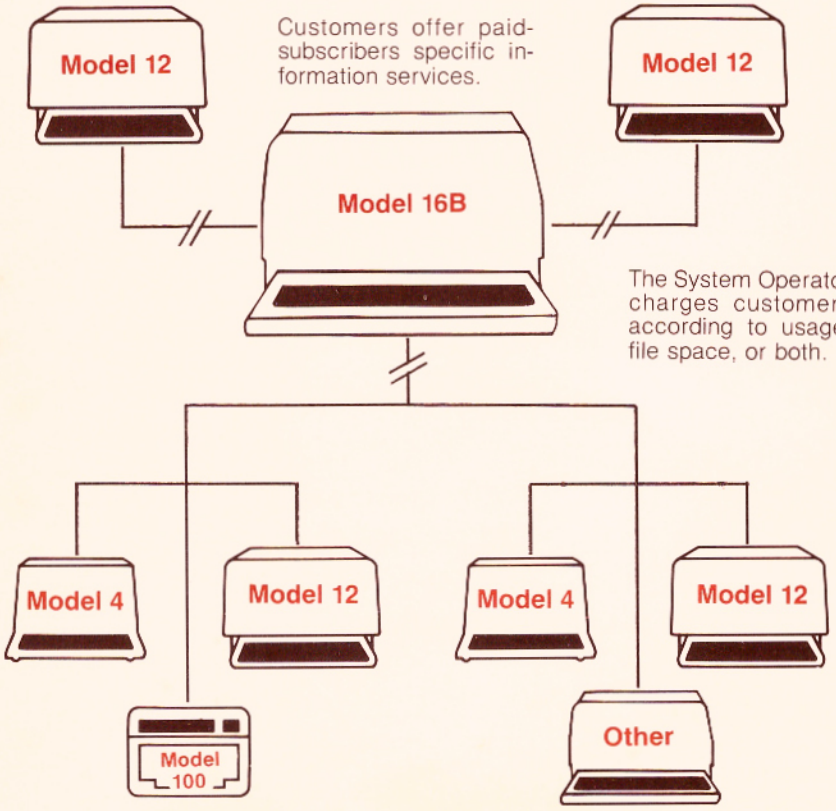
Private Internal Videotex System



The Information System Manager functions as both the System Operator and as the Information Provider.

This configuration is an ideal office information system. "Tiering" restricts certain users from accessing confidential information.

Mass Market System



Customers offer paid-subscribers specific information services.

The System Operator charges customers according to usage, file space, or both.

Subscribers deal directly with the appropriate Customer—the System Operator is effectively "user transparent".

VIS can be used within your business or within your business environment.

Office Information System

As a Private Internal Videotex System (PIVS), VIS can meet the requirements of an information storage and delivery system within your company's internal operations. Using a computer in your office or a portable terminal from thousands of miles away, VIS could let you check factory orders against usable inventory, corporate sales figures and production capacity, client or patient reports, and much, much more.

Mass Market System

As a Mass Market System (MMS), VIS can be used as a "public" data base in which paid subscribers are allowed access to data such as news, weather and stock reports. Airline schedules, real estate multiple listing directories and credit bureau information are just a few of the many services possible with VIS.

In both configurations, tiering permits the customer to charge each user by the specific services requested. It is important for both MMS billing purposes and for PIVS inter-departmental charges.

Typical VIS Applications

Archival/Information Retrieval Services

Legal Information—case searches
Pharmacological Data Base—drugs, medicines, herbs, vitamins, etc.
Insurance—policy searches, client data
Library Card Catalogs
"Encyclopedia" Research Data Bases
Inventory/Catalog Lists
Telephone Directories—with cross listings and consumer advertising

Continuously Updated Services

Educational Records—Rolls, Class Schedules, Student Records
Agricultural Data Services
Periodicals—newspapers, magazines, etc.
Mailing Lists
Classified Advertising
Financial Services—Banking, Stocks

Specialized Services

Computer Program and Arcade Systems
Maps, Surveys, Charts and other Graphics
Government Data Bases—voter and tax rolls, auto license/title, etc.

Retrieving Information with VIS

Because VIS performs all terminal interactions and data retrieval capabilities, anyone can carry out sophisticated computer database applications with no prior experience.

The process begins when the user enters a request on a TRS-80 desktop computer, TRS-80 portable computer, or TRS-80 terminal. VIS receives the request, retrieves the desired data and formats it according to the user's computer or terminal. Finally, the data is transmitted one screen at a time to the user.

VIS Re-Defines "User Friendly"

VIS is incredibly easy to use. But beyond simple operation, VIS actually helps the user through the system. It is tolerant of user mistakes to the point that it will accept misspelled words or retrieve alternatives based on phonetic/alphabetic similarities!

This feature is illustrated in the chart at right, but it is first necessary to define some of the concepts used in VIS operation.

A "document" is a unit of information stored in VIS by a specific name, or "title". Related documents can be grouped into categories called "topical references".

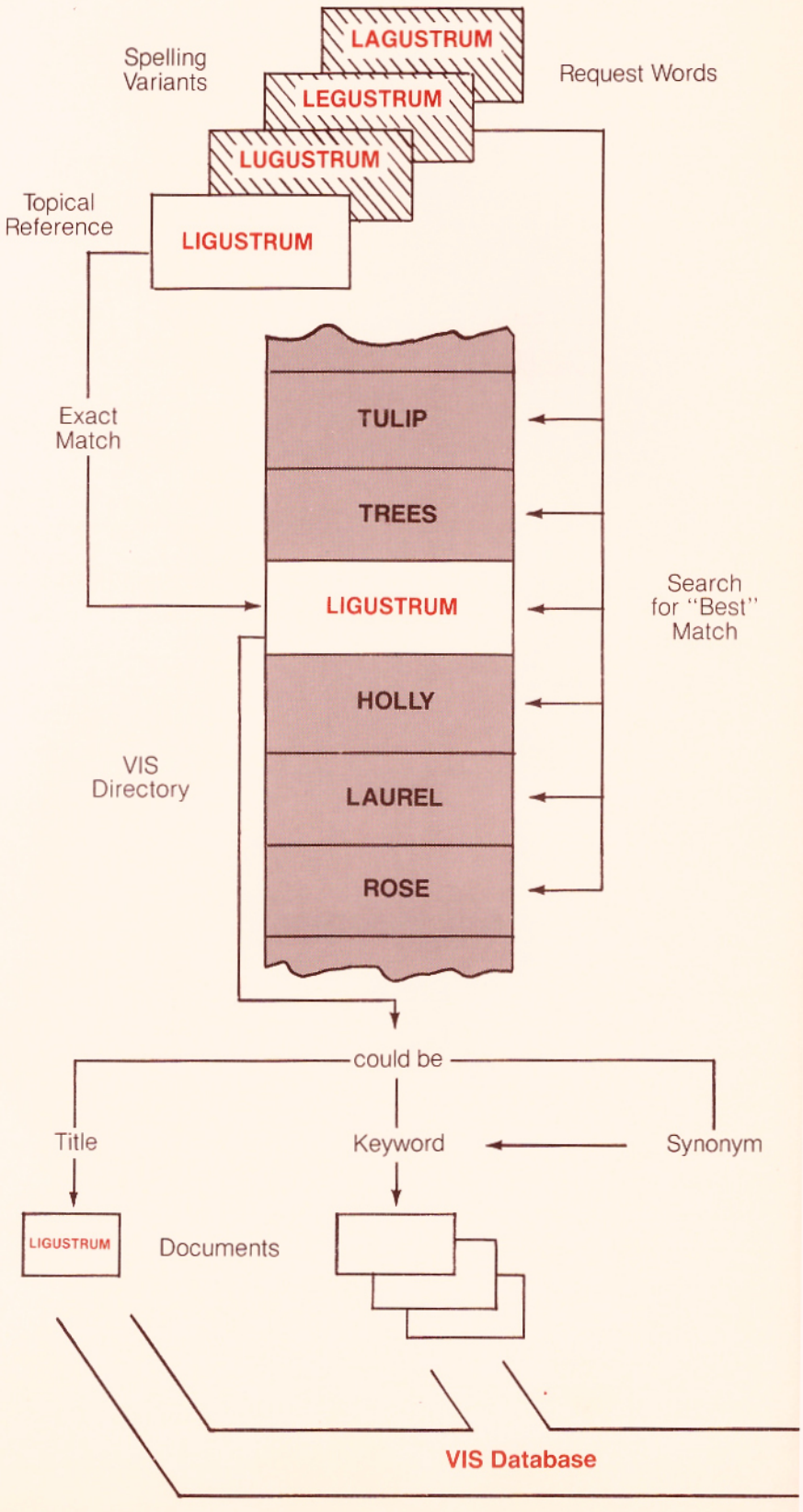
A user may request a document by entering the title, or by using a "keyword", which is merely a word used as a cross reference.

It is important to point out that a user does not have to know either the title or a correct keyword to access a particular document. For example, a user could enter "woods" and because it is a "Synonym" for the keyword "forest", gain access to documents pertaining to trees.

Multiple Reference Requests

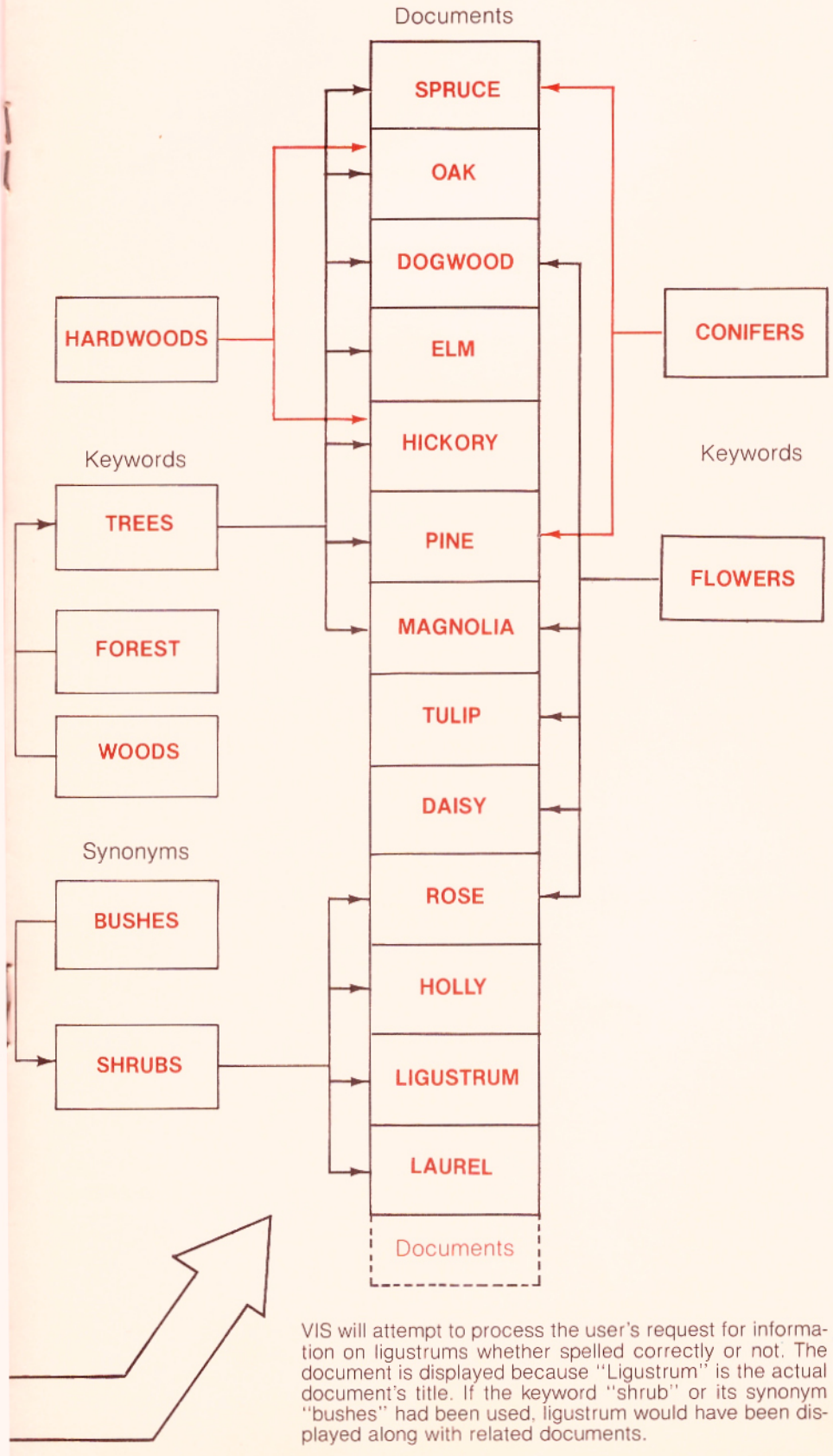
VIS features logical operators that add an incredible degree of flexibility in requesting information. A user requesting information on two topical references, such as "trees flowers", could possibly receive more information then is needed. Logical operators (and, or, exclusive or) permit the user to target in on exactly those documents required—quickly and easily.

VIS Request Look-Up Process



Data Base Organization

Title, Keyword and Synonym Relationships



VIS will attempt to process the user's request for information on ligustrums whether spelled correctly or not. The document is displayed because "Ligustrum" is the actual document's title. If the keyword "shrub" or its synonym "bushes" had been used, ligustrum would have been displayed along with related documents.

The extremely simple operation that is experienced by the information consumer is extended to the information provider, as well. Indeed, a customer can rely on relatively untrained computer personnel to maintain the data base.

As Easy as Word Processing

The customer prepares the text of each document with a text editor or word processor such as Radio Shack's SCRIPSIT®. Anyone who can use a text editor can create your data base—from editors to clerks to new personnel who can be self-taught in a matter of days.

After a document is prepared by supplying simple items such as the document title, keywords and synonyms, the VIS Edit/Maintain program is used to insert documents into the VIS data base.

For security or billing purposes, documents can be assigned a specific access level and price. Thus, Level 1 users will only be able to access Level 1 documents, while Level 2 users can access both Level 1 and Level 2 documents, and so on.

The Menu for Success

Unlike many systems, customers can setup VIS to include concurrent menu/keyword document access. Menus offer "user friendly" operation to those who have little or no experience with data base systems. However, menus can also be viewed as time-consuming obstacles by experienced users. That's why VIS permits one user to access a document by utilizing menus while another user accesses the same document directly—using keywords and synonyms.

VIS also features such important functions as full logging of user responses, graphics capabilities and the ability to send and receive computer programs as well as text.

Managing System Information

VIS provides all of the "tools" that a system operator needs to establish and maintain an efficient VIS data service for every customer. These include data base structural analysis and management tools as well as a data log maintained for billing purposes.

VIS Doesn't Tie Up Your Resources

All that is required to set up a basic VIS system is Radio Shack's 2-disk TRS-80 Model 16B with 384K RAM, a 12-megabyte hard disk system, two modems and VIS software. This configuration is ideal for a Private Internal Videotex System because data is entered through the Model 16B itself. While this is an incredibly affordable system, it should be noted that it can handle up to 200 incoming calls a day (assuming each call averages between 5 and ten minutes each over a 24-hour period.)

From this basic configuration, a system can expand as necessary. Ultimately, the system operator can provide service to as many as 256 Information Providers (customers) per system. Additional hard disks, each storing about 24,000 frames of 512 bytes each, can be added until the system could store all of the information contained in a complete set of encyclopedias. The TRS-80 Communications Multiplexor with either 8 or 16 ports could be added to handle more incoming calls—approximately 100 calls (5-10 minutes each) per port daily. A total of four multiplexors can be used to handle even more incoming calls.

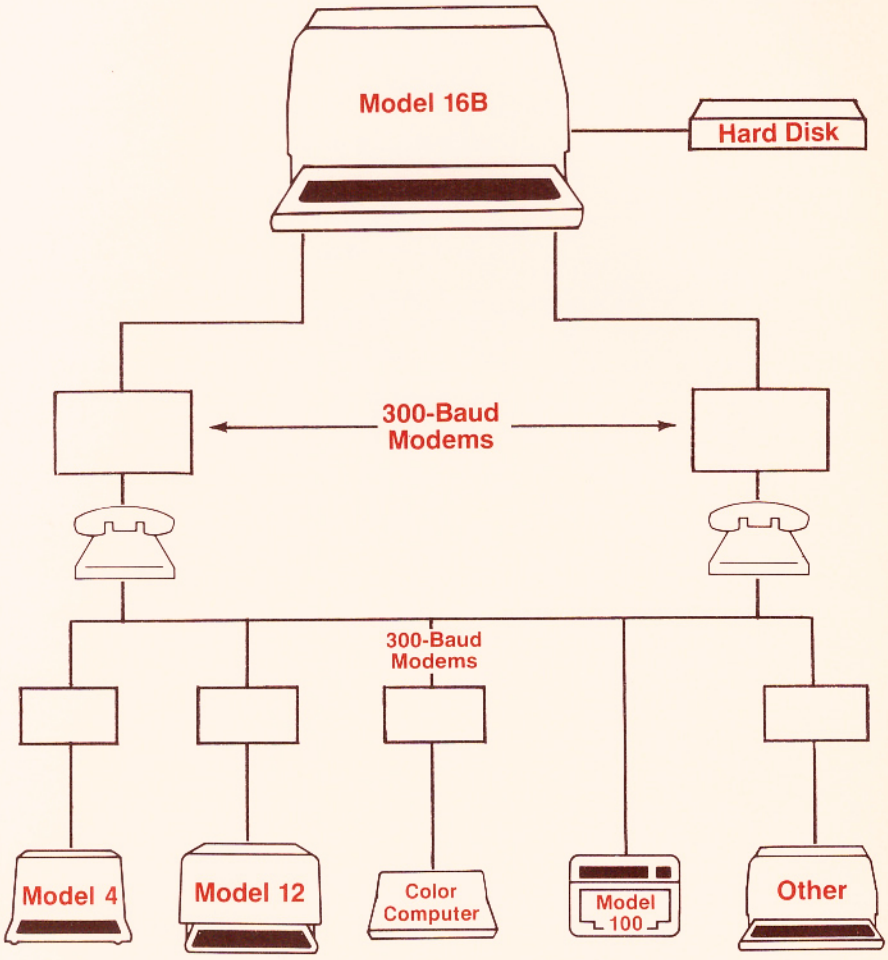
Graphics and Program Downloading

VIS supports alpha-mosaic and alpha-geometric graphics protocols concurrently. Furthermore, various error detection techniques (as defined by the system operator) allow for the dissemination of computer programs. This flexibility makes a broad base of applications and services available to computer and terminal users.

On the Threshold of Tomorrow

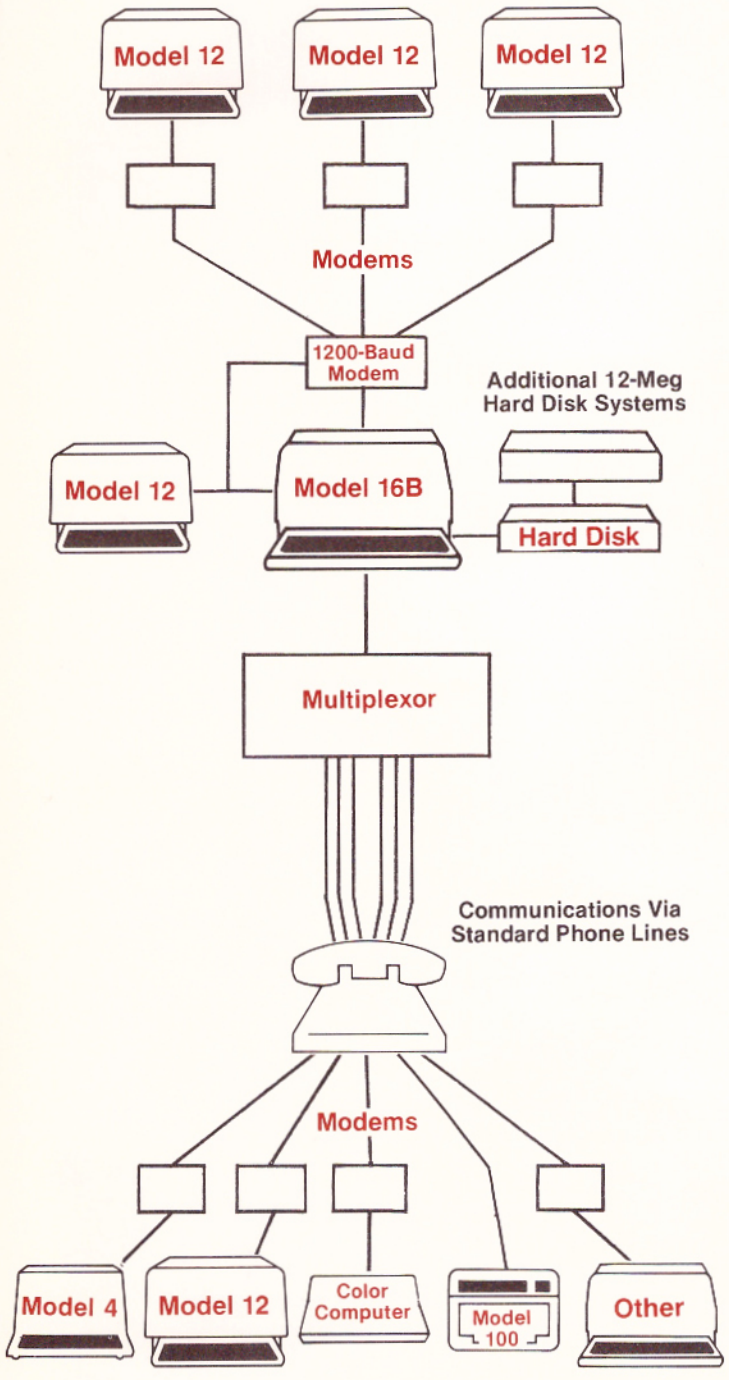
Radio Shack will continually enhance the performance features of VIS. System operators will be able to add increased functionality as it is developed. In most cases, enhancements will require no further hardware investment—and all will be completely compatible with the existing data base. Electronic mail, electronic shopping, catalog sales, bulletin boards, financial analysis services—all are examples of what the VIS system operator can look forward to.

Basic VIS Configuration



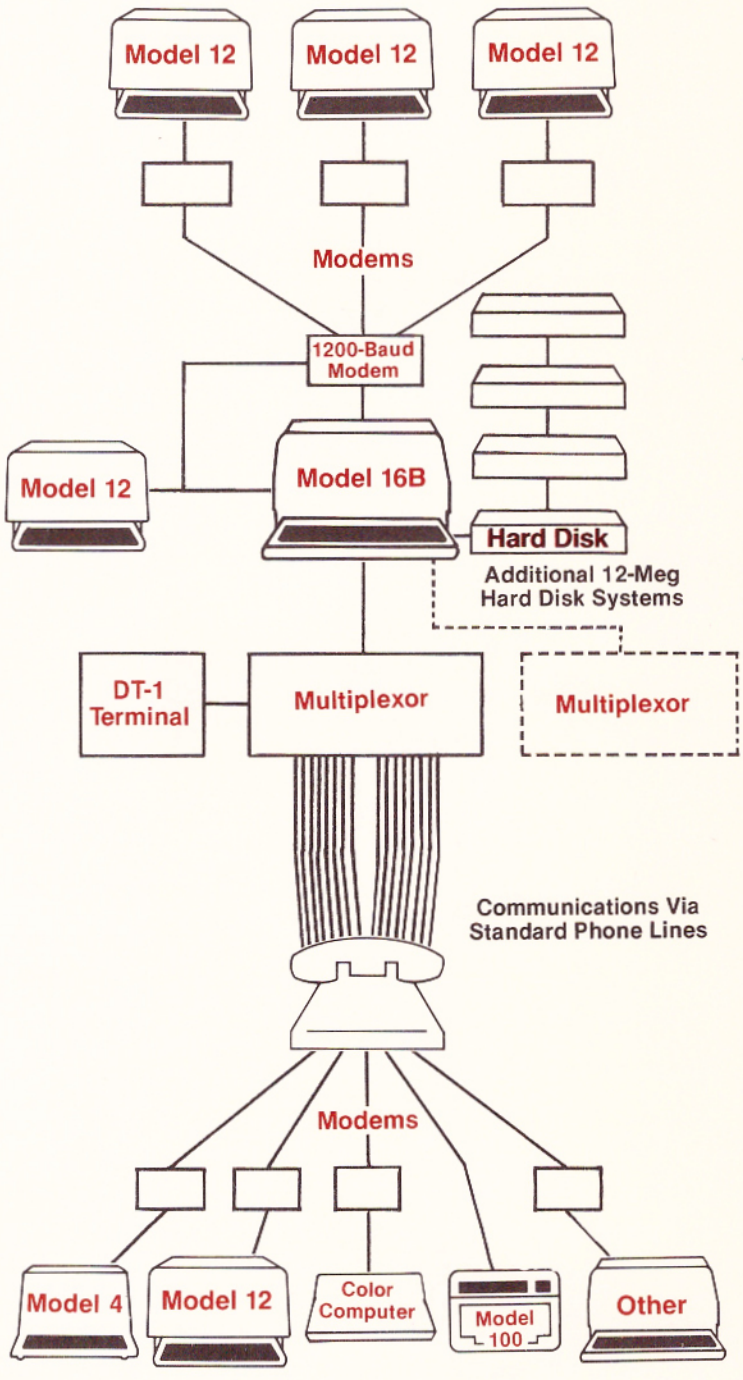
Information Consumers at Remote Locations

Advanced VIS Configuration



Information Consumers at Remote Locations

Super VIS Configuration



Information Consumers at Remote Locations

Videotex Office and Information System—Technical Overview

VIS Software

VIS was developed in highly modular form in the "C" programming language, and features an advanced Back-Up and Recovery system. It is designed to be a continuously evolving product, with software enhancements made available to all system operators.

The fundamental unit of storage in VIS is the document, which also controls delivery to the users. Documents have no maximum size restriction, and may contain text, graphics or computer object programs. ASCII text is compressed, and stored on disk in 128-byte units (one page of single-spaced text would equal about 10 units). The compression technique used for ASCII data yields values from 25% to 33%. Thus, Radio Shack's 12-megabyte hard disk systems can effectively store 16 megabytes of text.

Graphics and computer object programs are not compressed, and are stored in a separate file from text documents (as are titles, keywords and synonyms).

Communications Multiplexor

The TRS-80 Communications Multiplexor is available in two versions. The 8-port version accepts eight incoming phone lines, while the 16-port version accepts 16 lines. Thus, each multiplexor in a VIS system (a total of four can be used) can service up to sixteen users simultaneously.

Each multiplexor features 8 or 16 built-in auto-answer modems, a 50-pin RJ21X telephone jack and two RS-232C serial ports.

Host Computer

VIS is designed for use with the Radio Shack TRS-80 Model 16B microcomputer and the TRS-XENIX® multi-user operating system. TRS-XENIX is derived from the powerful UNIX™ operating system developed by Bell Laboratories.

Model 16B incorporates two (and soon five) RS-232C serial communications interfaces and a parallel printer interface, and can expand from 256K (standard) to 768K of Random Access Memory. VIS can also be used with the TRS-80 Model 16 (with a maximum of 512K and 2 ports) and with TRS-80 Model 12 computers that have been upgraded to Model 16 capabilities.

Customer/User Compatibility

VIS is compatible with a wide variety of TRS-80 products. Information providers can use any TRS-80 disk-based computer, such as a Model II, 12, 16 or 16B, to maintain their database. Other compatible computers and communications terminals may also be used.

Information consumers can use any TRS-80 computer, such as the TRS-80 Color Computer or TRS-80 Model I, II, III, 4, 12, 16, 16B desktop computers with a 300-baud modem. The TRS-80 Model 100 portable computer with built-in modem may also be used, as may many other compatible computers. If a full-function computer is not needed, users can employ Radio Shack's TRS-80 Videotex terminal, PT-210 Portable Printing Terminal, DT-1 Data Terminal with modem—or virtually any other available terminal. The DT-1 requires an external modem.

FOR MORE INFORMATION, WRITE OR CALL TODAY!

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